06046342

State of Montana

State Board of Health

HELENA, MONTANA

JOHN S. ANDERSON M.D.
EXECUTIVE OFFICER AND SECRETARY

May 11, 1964

Mr. R. A. Bleich, Manager
The Zonolite Company
Libby, Montana

Dear Mr. Bleich:

Enclosed are two copies of a recent study made of the dry mill section of your plant near Libby. It is expected that a follow-up will be done in September, 1964 to determine the dust control provided by the additional fan described and by improved housekeeping.

We appreciate the courtesy and cooperation of you and your staff in this matter.

Sincerely yours,

Benjamin F. Wake
Industrial Hygiene Engineer
Division of Disease Control

BFW/bko

Encl.

On April 29, 1964 a study was made of the dry mill section of the Zonolite Mill at Libby, Montana to determine if compliance with previous recommendations for the control of dust had been achieved. The study was made in the company of Mr. Bud Vinion, after discussion of the plant operations with Mr. Kujawa, Plant Superintendent.

The study consisted of a review of the dust collection system and its improvement and the collection of five dust samples for counting to determine any improvement in the over-all dust control procedures.

Description of Operations

It was noted that a considerable change had been made in the ventilation system of the dry mill which appeared to reduce dustiness in some areas considerably. The backs to the screens had been replaced on nearly all machines and the rubbers on the screens were in good shape, generally, although a few were broken. Those that were broken were leaking dust badly.

The duct work to the ventilation system had been repaired and a new 35,000 cfm fan which discharged at ground level had been installed. According to Mr. Vinion, the plant expects, in addition, to have a southside fan (old 600) hooked up soon. This should improve the situation on the southside of the mill by reducing the considerable dustiness from some of the operations on that side. Priority should be given to this ventilation so that it is completed by the first of September, 1964.

It was noted that the rafters were heavily loaded with dust. Much of the high dust concentrations noted were due to this dust falling off the rafters and other places of deposit. It is unfortunate that the good work that has been done in the ventilation system is reduced by extremely poor housekeeping.

The second floor continues to need special attention and may be improved with the installation of the new fan system which was not in operation at the time of this study.

The third floor on the high grade side needs more work and should be gone over carefully to determine those areas which need special attention for the control of dust.

The elevator feed box on the half deck leaked dust badly and was a main contaminator of both the half deck and the second floor. A rubber was also missing on the connector to No. 210 screen and should be replaced. All screens should be inspected weekly and any missing screen backs or broken rubbers replaced immediately.

According to Mr. Vinion, the southside roll crusher and high grade circuit will have a separate ventilation system soon. As noted previously, this work should be given priority so that it is in and functioning before the first of September of 1964.

Concentrations

A review of Table I for Dust-In-Air indicates that even though there have been some reduction in dust concentration, there still remains a great deal of room for improvement to reach the maximum allowable concentration of 20 million particles per cubic foot of over-all dustiness. While it is recognized that the 20 million particles per cubic foot level does not reduce the asbestos dustiness to exactly 5 million particles per cubic (mppcf) foot, it is felt that over-all dustiness reduction to 20 mppcf will be suitable for the control of asbestos dust, since the 5 million particles per cubic foot figure is not a precise dividing line between a safe and unsafe condition but simply indicates a range at which control should be aimed.

TABLE I

Dust-in-Air for years noted
Concentrations in Millions of Particles per Cubic Foot of Air (MPPCF)

	1956	1959	1962	1963	1964
6th Floor	Not Determined	46.3	51.0	30.6	Not Determined
5th Floor	17.9	51.8	69.5	65.6	37.6
4th Floor	51.8	26.2	90.0	32.4	20.6
3rd Floor	28.7	24.8	60.5	32.8	22.0
2nd Floor	48.3	27.2	59.2	50.0	59.2
Half Deck	Not Determined	Not Determined	54.5	77.8	54.4
1st Floor	83.0	7.5	44.8 & 50.9	59.8 & 26.8	Not Determined

Maximum Allowable Concentration 20 MPPCF Total
Maximum Allowable Concentration 5 MPPCF Asbestos

* * * * * * *

A constant effort should be made, however, to achieve the reduction in total dustiness so that the 5 million particles per cubic feet of asbestos laden air is achieved at some time in the future.

Toxicology

In a recent article published in the Journal of the American Medical Association, April 6, 1964 by Selikoff and others, it is indicated that the "Building trades insulation workers have relatively light, intermittent,' exposure to asbestos. Of 632 insulation workers, who entered the trade before 1943 and were traced through 1962, forty-five died of cancer of the lung or pleura, whereas only 6.6 such deaths were expected. Three of the pleural tumors were mesotheliomas; there was also one peritoneal mesothelioma. Four mesotheliomas in a total of 255 deaths is an exceedingly high incidence for such a rare tumor. In addition, an unexpectedly large number of men died of cancer of the stomach, colon, or rectum (29 compared with 9.4 expected). Other cancers were not increased; 20.5 were expected, 21 occurred. Twelve men died of asbestosis."

In addition, "The recent demonstration, by South African and British investigators of pleural and peritoneal neoplasms among individuals who had chance environmental exposure to asbestos many years before raises the very important question of possible widespread carcinogenic air pollution." It was also demonstrated that asbestos-bodies were found in a man not employed in an industry but living next door to an asbestos factory. "Asbestos exposure in industry will not be limited to the particular craft that utilizes the material. The floating fibers do not respect job classifications. Thus, for example, insulation workers undoubtedly share their exposure with their workmates in other trades; intimate contact with asbestos is possible for electricians, plumbers, sheet-metal workers, steamfitters, laborers, carpenters, boiler makers, and foremen."

While the above situation does not apply specifically to the operations of your plant, the asbestos content of the material with which you are working appears to provide some serious potential for the development of disease if not properly controlled. In addition, the discharge of large volumes of asbestos-laden dust at ground level sets up a condition where all members of the plant can be exposed in addition to those who work in the dry mill. This presents a problem that needs to be dealt with in view of the information submitted and the findings on other workers employed using similar materials.

Conclusions and Recommendations

Based on the findings of this study and in view of past experience, it is recommended that a review of past studies be made to determine areas producing dustiness. In addition, the following recommendations are submitted:

1. That a careful program of housekeeping be instituted so that dust collected on rafters does not reach the subsidence point. Careful cleaning of the floors should be done on a sufficiently frequent and routine basis as to prevent dust from falling off the rafters or from collecting on the floor to such a degree that this dust is a contributor to the overall load generated by the machines.

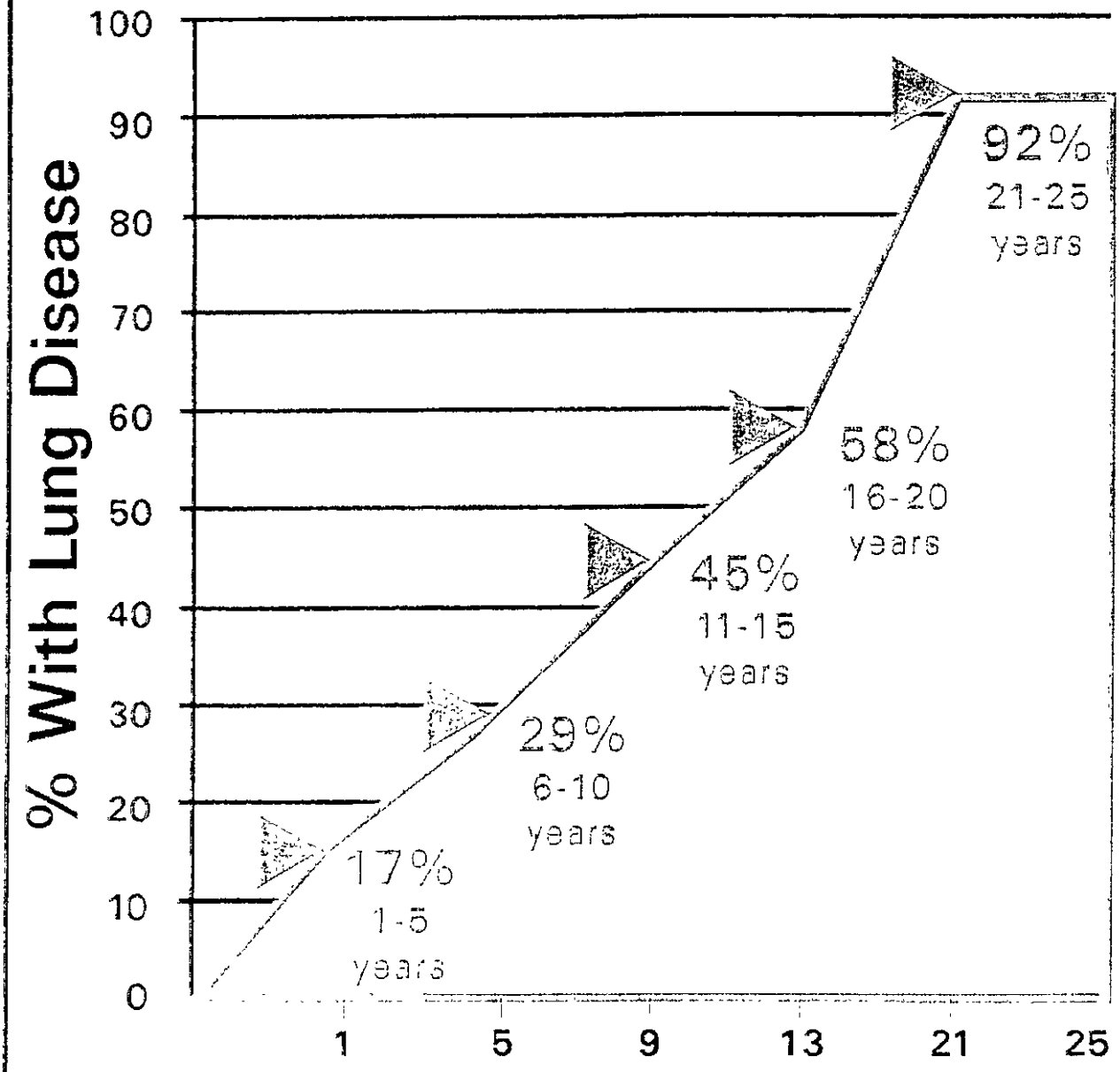
2. That a special priority be given to the installation of the additional fan described so that those areas not now sufficiently ventilated are brought under control by the first of September, 1964.

3. That the blower discharge--presently at ground level--be elevated to such a degree that re-entry is not so prevalent. It is expected that large volumes of dust will re-enter the building when the wind is in the right direction. It may also be desirable to consider collecting the exhaust dust by means of a cyclone or other suitable dust collecting device.

4. That continued effort be made by the company to determine the dust concentrations in the building by frequent sampling and analysis and by frequent observation of the dust collection systems to determine that they are operating at maximum efficiency.

EXHIBIT 19

Workers with Disease - 1969



Years of Exposure

Per Exh. 130.4 Grace Headquarters In-house Study

02146519

PERSONAL AND CONFIDENTIAL

STUDY TO DETERMINE

RELATIONSHIP BETWEEN

YEARS OF EMPLOYMENT, AGE, SMOKING HABITS

AND CHEST X-RAY FINDINGS

ZONOLITE/LIBBY EMPLOYEES

cc: H. A. Brown (HAB)
E. D. Lovick
R. A. Kulberg

EXHIBIT
130.4

021:6520

Number of employees studies - 135

Number of employees showing lung disease - 45
(For purposes of this study, this includes those definitely showing lung disease as well as the "possible" or "suspected").

Those who now smoke as well as those who have kicked the habit are classified as smokers.

By "years worked" is meant the number of years worked at Zonolite/Libby.

TABLE A

Of the 45 who have lung disease:

24 smoke cigaretts
3 smoke pipe or cigar
15 smoked at one time but not now
3 never smoked

TABLE B

Of the 45 who have lung disease, years worked is as follows:

less than 1 year	0	
1-5 years	11	(or 17% of all employees in this g
6-10 "	6	(or 29%)
11-15 "	9	(or 45%)
16-20 "	7	(or 58%)
21-25 "	11	(or 92%)
26-30 "	1	(or 33%)

TABLE C

Age vs. years worked

AGE	less than 1 year	1-5 years	6-10 yrs.	11-15 yrs.	16-20 yrs	21-25 yrs	26-30
less than 20	0	2	0	0	0	0	0
20-25	1	9	1	0	0	0	0
26-30	0	15	3	0	0	0	0
31-35	0	12	3	0	0	0	0
36-40	0	8	2	2	4	0	0
41-45	0	3	4	3	2	1	0
46-50	0	5	4	8	3	2	0
51-55	0	8	1	2	2	3	1
56-60	0	4	3	4	0	6	1
61-65	0	0	0	1	1	0	1
	1	66	21				

02146521

TABLE D

Years Worked	Smokers Showing Lung Disease	Smokers Showing Normal Lungs	Non-Smokers Showing Normal Lur
less than 1	0	1	0
1-5	11	44	11
6-10	6	12	3
11-15	9	9	0
16-20	7	4	0
21-25	10	2	0
26-30	1	1	1
	44	73	15
	42	75	15

TABLE E

AGE	Number of Employees Having Lung Disease	Number of Smokers in Each Age Group
less than 20	0	1
20-25	0	8
26-30	2	15
31-35	0	13
36-40	6	13
41-45	2	11
46-50	13	21
51-55	6	16
56-60	12	18
61-65	3	3

SUMMARY

The majority (88%) of employees at Libby smoke or have smoked. Of the 12% non-smoker group, only five have worked in excess of three years. There is no real group for control or comparison purposes. A true correlation between smoking and exposure to dusty work atmosphere, and its effects on the lungs, therefore, cannot be made.

Although 17% of our 1 to 5 years service group have or are suspect of lung disease, there is a marked rise (45%) beginning with the 11th year of service, climbing to 92% in the 21 to 25 years service gorup. This suggests that chances of getting lung disease increase as years of exposure increase.

It is noted that of the 45 employees who have or are suspect of lung disease:

2 have worked only 1 year
2 have worked only 2 years
3 have worked 3 years
3 have worked 4 years

It would be well to take a good look at our pre-employment chest X-Ray program to make sure applicants with lung conditions are not hired.

Peter Kostic

NAME	AGE	YEARS WORKED	SMOKING HABITS	HOW LONG	WHAT NOW	X-RAY STATUS
	25	8 mo.	cigs. 1/2 pack/day	6 years	still does	normal
	62	14	cigs. 1 pack/day	45 years	still does	Fibrosis both lung fields
	36	1	cigs. 1/2 pack/day	7 years	still does	normal
	60	3	cigs. 1 pack/day	40 years	quit 1 yr. ago	pulmonary emphysema & fibrosis
	24	1	none	never	---	normal
	57	24	cigs. 1 pack/day	20 years	quit 17 yrs. ago	fibrosis both lungs
	28	1	cigs. 1/2 pack/day	12 years	still does	normal
	49	19	pipe smoker	15 years	quit 2 yrs. ago	normal
	57	22	cigs. 15/day	2 years	still does	fibrosis, both lungs.
	28	2	none	never	---	normal
	36	4	cigs. 45/day	21 years	still does	possible fibrosis & emphysema
	61	27	cigs. 6/day	25 years	still does	possible emphysema
	52	2	cigs. /?	4 years	still does	normal
	24	1	cigs. 1 pack/day	7 years	still does	normal
	54	3	cigs. 20-30/day	35 years	still does	normal
	52	12	cigs. 1 pack/day	30 years	still does	normal
	48	12	cigars 10/day	19 years	quit 4 yrs. ago	normal
	56	11	cigs. 1 pack/day	25 years	quit 4 yrs. ago	possible very minimal fibrosis
	31	1	cigs. 1/2 pack/day	14 years	still does	normal
	28	3	cigs. 2-1/2 packs/day	10 years	quit 6 mo. ago	normal
	42	21	cigs. 1 pack/day	15 years	still does	fibrosis, both lungs.

021:6522

NAME	AGE	YEARS WORKED	SMOKING HABITS	HOW LONG	WHAT NOW	X-RAY STATUS
	51	1	cigs 1/2 pack/day	20 years	quit 1-1/2 yrs. ago	normal
	36	20	cigs 1/2 pack/day	10 years	quit 6 mo. ago	fibrosis, left lung
	24	2	none	never	---	normal
	48	10	cigs 1 pack/day	30 years	still does	emphysema & fibrosis, lt. lu
	46	2	cigs 1/2 pack/day	30 years	still does	normal
	34	2	cigs 1 pack/day	15 years	still does	normal
	49	11	cigs 1 pack/day	23 years	quit 7 yrs. ago	normal
	54	4	cigs 1 pack/day	20 years	still does	fibrosis, both lungs
	51	23	cigs 1-1/2 packs/day	30 years	quit 6 mo. ago	possible fibrosis, both lung
	48	1	none	never	---	normal
	42	9	cigs 1 pack/day	7 years	still does	normal
	54	32	cigs 3 packs/day	30 years	quit 8 years ago	normal (office work)
	33	4	cigs 1 pack/day	15 years	still does	normal
	45	11	pipe smoker	20 years	still does	normal
	46	23	cigs 1 pack/day	18 years	quit 10 yrs.ago	questionable fibrosis, both lungs.
	52	3	cigs 25/day	30 years	still does	poss. emphysema and questionable fibrosis
	38	4	cigs 1 pack/day	15 years	still does	normal
	22	3	none	never	---	normal
	41	10	none	never	---	normal
	47	15	cigs 1 pack/day	27 years	still does	fibrosis, both lungs
	45	1	cigs 1-1/2 pack/day	4 years	quit 2 yrs. ago	normal
	41	7	none	never	---	minimal fibrosis, both lungs

01-46523

NAME	AGE	YEARS WORKED	SMOKING HABITS	HOW LONG	WHAT NOW	X-RAY STATUS
	42	14	cigs 1 pack/day	25 years	still does	normal
	55	21	cigs 1 pack/day	20 years	quit 5 years ago	fibrosis, both lungs
	31	1	cigs 10-15/day	10 years	still does	normal
	30	1	cigs 1/2 pack/day	5 years	still does	calcification, both lungs
	40	2	none	never	---	normal
	29	9	cigs 1-1/4 packs/day	10 years	still does	minimal fibrosis, rt. lung
	31	2	cigs 1/2 pack/day	2 years	still does	normal
	37	8	cigs 1-1/2 packs/day	15 years	still does	normal
	18	1	none	never	---	normal
	56	14	"never smoked much"	---	quit	questionable minimal fibrosis
	47	13	cigars & pipe	3 years	quit 3 years ago	normal
	28	5	cigs 1 pack/day	2 years	quit 9 yrs. ago	normal
	50	10	smokes cigars	?	still does	possible fibrosis, both lungs
	54	1	none	never	---	normal
	38	19	cigs 1 pack/day	20 years	still does	questionable minor fibrosis, left lung
	38	13	cigs 1 pack/day	12 years	still does	normal
	57	4	cigs 1 pack/day	45 years	still does	normal
	37	19	none	never	---	minimal fibrosis, both lungs
	56	9	---	---	quit 29 yrs. ago	minimal fibrosis, both lungs
	37	9	cigs 15/day	20 years	still does	normal
	48	15	cigs 3/day	35 years	still does	fibrosis, both lungs

NAME	AGE	YEARS WORKED	SMOKING HABITS	HOW LONG	WHAT NOW	X-RAY STATUS
	31	3	cigs 1 pack/day	12 years	still does	normal
	29	1	cigs 1 pack/day	14 years	still does	normal
	63	18	---	---	quit 8 yrs. ago	fibrosis, both lungs
	42	7	pipe smoker	25 years	still does	normal
	53	25	pipe smoker	10 years	quit 14 years ago	normal
	27	2	cigs 1 pack/day	8 years	quit 2 yrs ago	normal
	19	1	cigs 1 pack/day	5 years	still does	normal
	56	4	pipe smoker	30 years	quit 6 wks. ago	possible early emphysema
	23	2	cigs 1 pack/day	11 years	quit 1 year ago	normal
	47	12	cigs 12/day	30 years	still does	normal
	29	1	cigs	10 years	still does	normal
	52	20	cigs 1 pack/day	35 years	still does	normal
	28	2	cigs 1 pack/dey	12 years	still does	normal
	56	25	cigs 1-1/2 packs/day	40 years	still does	normal
	53	2	cigs - "very few"	--	quit 34 yrs. ago	normal
	44	2	cigs 5-6/day	6 mo.	still does	normal
	39	2	cigs 1/3 pack/day	28 years	quit 1 year ago	normal
	32	6	cigs 2 packs/day	10 years	still does	normal
	47	5	cigs 2 packs/day	20 years	still does	minimal fibrosis both lungs
	32	3	cigs 15/day	10 years	still does	normal
	48	21	cigs 1/2 to 1 pack/day	30 years	quit 6 mo. ago	fibrosis both lungs

02146525

NAME	AGE	YEARS WORKED	SMOKING HABITS	HOW LONG	WHAT NOW	X-RAY STATUS
	39	2	was a cig smoker	15 years	quit 7 yrs. ago	possible early emphysema
	54	1	cigs 1 pack/day	30 years	still does	questionable fibrosis and emphysema
	25	2	cigs 15/day	5 years	still does	normal
	30	2	cigs 1-1/2 packs/day	10 years	still does	normal
	49	6	cigs 1 pack/day	15 years	quit 4 mo. ago	normal
	26	1	cigs 1 pack/day	12 years	quit 2 wks. ago	normal
	28	3	cigs 1/4/day	10 years	still does	normal
	43	11	was pipe & cigar smoker	15 years	quit 8 mo. ago	normal
	40	18	cigs 1 pack/day	20 years	still does	fibrosis, both lungs
	30	10	cigs 15/day	10 years	still does	normal
	?	7	none	never	---	normal
	31	1	cigs 25/day	10 years	quit 5 mo. ago	normal
	49	2	cigars 20 day	35 years	still does	fibrosis & emphysema both lung
	58	25	cigs 6/days	20 years	quit 6 yrs. ago	possible minimal fibrosis both lungs
	50	8	cigs 1 pack/day	25 years	still does	emphysema and minimal fibrosis both lungs
	60	3	cigs 1 pack/day	40 years	still does	emphysema both lungs
	56	23	cigs 1 - 1½ packs/day	25 years	still does	fibrosis left lung possible early emphysema
	34	1	none	never	---	normal
	34	2	cigs 1 pack/day	10 years	still does	normal
	34	10	none	never	---	normal
ey, Donald A.	60	9	cigs 1 pack/day	15 years	quit 4 mo. ago	normal

021:6526

NAME	AGE	YEARS WORKED	SMOKING HAVITS	HOW LONG	WHAT NOW	X-RAY STATUS
	24	3	cigs 1 pack/day	10 years	still does	normal
	45	7	cigs 10-20/day	2 years	quit 6 years ago	normal
	56	7	cigs 1 pack/day	19 years	quit 28 years ago	normal
	37	13	none	never	---	tumor mass left lung
	36	1	cigs 1 pack/day	20 years	still does	normal
	28	1	cigs 1/2 pack/day	10 years	still does	normal
	49	17	smokes cigs	25 years	still does	fibrosis, both lungs
	35	6	cigs 1 pack/day	15 years	still does	normal
	49	19	cigs 1/2 pack/day	40 years	still does	possible emphysema, both lungs
	42	18	cigs 1 pack/day	30 years	quit 11 years ago	normal
	47	12	cigs 1 pack/day	29 years	quit 1 year ago	fibrosis, both lungs
	31	2	cigs 1 pack/day	13 years	still does	normal
	47	1	cigs 1-1/2 packs/day	15 years	still does	normal
	29	1	cigs 18/day	15 years	still does	normal
	23	4	cigs 15/day	7 years	still does	normal
	32	15	cigs 1 pack/day	3 years	quit 4 years ago	normal
	58	15	"moderate" cigarette smoker	40 years	still does	normal
	38	1	cigs 1-1½ packs/day	10 years	still does	normal
	56	24	cigs 1-1/2 packs/day	40 years	still does	fibrosis, both lungs
	54	14	cigs 5-6, cigars 2/day	36 years	still does	normal
	23	6	cigs 1 pack/day	8 years	still does	normal

NAME	AGE	YEARS WORKED	SMOKING HABITS	HOW LONG	WHAT NOW	X-RAY STATUS
	59	26	smoked at one time	?	quit 20 years ago	normal
r.	24	5	cigs 1/2 pack/day	5 years	still does	normal
	52	19	cigs 2-3 /day	?	still does	emphysema and fibrosis both lungs
	56	15	cigs 2 packs/day	43 years	still does	emphysema and fibrosis both lungs
	49	11	cigs 1 pack/day	10 years	quit 2 yrs. ago	fibrosis both lungs
	52	3	cigs 1 pack/day	30 years	still does	normal
	43	3	cigs 1 pack/day	10 years	quit 10 years ago	normal

ZONOLITE DIVISION

02146529

TO H. A. Brown DATE December 23, 1969

FROM E. D. Lovick SUBJECT Radiological Interpretation of X-Rays - Libby Employees

H. A. B.

CC: Peter Kostic

I have received a copy of Larry Parks' letter of December 16 as well as letters from both you and Peter Kostic. I have talked with the radiologist who interprets our X-rays concerning the advisability of having these followed up at six-month intervals rather than twelve-month intervals. He was rather surprised that this would be recommended for he says that he does not believe anything could be accomplished by these being taken at six-month intervals.

The thing that we are looking for in these is such that any change is very gradual as has been pointed out. Even a different in technique can change the apparent results of what the interpretation of the X-rays is. He did state that it is possible for tumors or such that can be rather fast-growing to show up at 6-month intervals, but not the fibrotic conditions which we are concerned with. What Mr. Parks may not realize is that results of these interpretations are also turned over to the employees' personal physician and in the event that their personal doctor feels that further checkups or examinations should be given, arrangements are made for these people to follow up on their own initiative. This year there have been several cases of employees being sent to Spokane for additional examinations. It has always been our contention that this is the way it should be handled.

Peter points out in his letter that we don't know what to do inthe event there is a change any way. I believe that this is correct. My opinion would be that there should be no change in the annual schedule.

Dr. Little stated that it would be possible for him to recommend specifically that some of these people have a follow-up rather than relying on the employee's personal doctor. Even in the event that he did this, it would seem to me that we should still have to leave it up to the employee's personal physician to to see that the follow-up is made at whatever time is recommended if it is to be in less than a year.

Ed

EDLovick/jbg

K 2.1.3

LIBBY 1969 PRIOR

D5 BOX 50

From the desk of
H. A. BROWN

To:

02146518

Set up meeting with Parker.

EXHIBIT 20

"It would be well at this time, with the advice of counsel, to consider applying a warning or precautionary label on all containers of products containing vermiculite

Before any labeling . . . we should indeed study . . . the consequences . . . By warning people or inadequately warning people we may be incurring liability . . .

To: R. W. Sterrett

Date: March 11, 1969

From: Peter Kostic

cc: R. M. Vining
C. F. Dugan
R. A. Kulberg

The following article which appeared in the March issue of Safety Engineering is for your information. I think it would be well at this time, with the advice of counsel, to consider applying a warning or precautionary label or statement on all containers of products containing vermiculite. This may aid our defense in cases of product liability claims. The attached extra copies are for distribution as you wish.

Peter Kostic

PK:vng

WASHINGTON SAFETY REPORT

One disturbing factor in mesothelioma is the rather indirect exposure a number of its victims had. In some cases studied in London, 31 had worked with asbestos, but nine merely lived in the household of an asbestos worker! Eleven people lived within ½ mile of an asbestos factory!

Early in 1968, Dr. Maxwell Borow reported in the "Journal of the American Medical Association" on 17 mesothelioma cases in New

06191709

TO: Peter Kostic

DATE: March 31, 1969

cc: R. W. Sterrett
R. M. Vining
R. A. Kulberg

Re: Labeling of Vermiculite

Reference is made to your memorandum of March 11 concerning the article from Safety Engineering.

Before any labeling of containers of products containing vermiculite is done we should indeed study carefully the content of the labeling and the consequences of putting a label on the package. By warning people or inadequately warning people we may be incurring liability to which we would not otherwise be subject.

I do not believe that vermiculite could be classified today as a poisonous substance for which labeling may be required.

Charles F. Dugan

CFD/MS

PLAINTIFF'S EXHIBIT

EXHIBIT

06191709

TO: Peter Kostic DATE: March 31, 1969

cc: R. W. Sterrett
R. M. Vining
R. A. Kulberg

Re: Labeling of Vermiculite

Reference is made to your memorandum of March 11 concerning the article from Safety Engineering.

Before any labeling of containers of products containing vermiculite is done we should indeed study carefully the content of the labeling and the consequences of putting a label on the package. By warning people or inadequately warning people we may be incurring liability to which we would not otherwise be subject.

I do not believe that vermiculite could be classified today as a poisonous substance for which labeling may be required.

Charles F. Dugan

CFD/MS

EXHIBIT 21

GRACE

CONSTRUCTION PRODUCTS DIVISION

CONFIDENTIAL

MAR 11 1976

March 11, 1976

To: H. A. Brown

From: R. H. Locke

Subj: Recent Sampling in Connection with Omaha Citations 4 and 5 (Product and Waste)

1. Sampling Conclusions: Based upon these very few, hurried tests which would be nice to verify between plants and with more job sites,

   A. Both Concrete Aggregate and Monokote are under 2 fibre, probably due to outdoor use with free air circulation. Only Dallas product has been tested, however, and there may be plant to plant variations in addition to the job site variations.

   B./C. Both Attic Fill and Masonry Fill exceed the 2 and 5 fibre levels. This necessitates a binder development program or other remedy.

   D. Horticultural appears to be no problem.

   E./F. Wetting stoner rock appears to put us below the 2 fibre level on waste disposal.

   Other. The above represent over 80% Libby output. Industrial (not tested but 5% of Libby) probably approximates Attic and Concrete Aggregate depending upon ore size, application geometry, and ventilation.

2. Using the Omaha extension to 31 December 1976 for action on items 4 and 5, a Binder Development Program should be initiated immediately. If the program is unsuccessful, uneconomic, requires extensive plant modifications to implement or runs into timing problems, back-up measures will be necessary.

   Such back-up programs might include: Reformulating Attic Fill; Restricting Masonry Fill to S.C. #4 with freight cost penalty in northern markets, or substitution of perlite from expanding plants so equipped; Acceleration of wet mill clean-up potential; Low-vacuum furnace settings; Teflon binding; Air allutriation; and other. Some of the above are unlikely. However, back-up is the point.

   A review of the West Chicago stoner discharge water spray should be possible soon.

   Last, it should be noted the potential exists that OSHA might inspect another plant and a different Regional Office might issue deadlines on product or rock earlier than the extended Omaha deadlines (the [illegible] September 30, 1977 deadline for 2 fibre). In that event, [illegible] conceivably be cited as a precedent for uniformity at 31 December 1976 and 30 September 1977.

10042596

"Both Attic Fill and Masonry Fill exceed the 2 and 5 fibre levels. This necessitates a binder development program or other remedy"

PLAINTIFF'S EXHIBIT 21 MDL 731

EXHIBIT 10

DETAIL

1. Sampling.

Sampling of selected products was done during the last two weeks of February. The samples are not representative of all plants and of all uses of Libby products, but several conclusions may be drawn.

A. Concrete Aggregate and Monokote
(Sampling on jobsites with Dallas-made Libby #4 product)

Contractor employees opening bags, operating mixers, and disposing of bags received the highest exposures, but these were below the July 1st 2 fibre tolerance level (highest exposures were 1.0 to 1.5). Monokote gun operators (who routinely wear respirators) may be subject to 1.0 levels. Contractor employees cleaning up dried Monokote may receive levels between 2 and 5 fibres. The fibre concentrations on the roof (all less than 1 fibre) were probably a result of fibres from the ground mixer area.

In summary, it appears that application of Zonolite Insulating Concrete and Monokote do not create fibre exposures over 5 or 2 with two qualifying remarks; that (a) all sampling was out of doors or in wall-less buildings and (b) the Libby #4 product was from the Dallas plant exclusively (Reference: T&A #48871).

B. Attic Fill

Attic Fill, tested twice, in its current form creates fibre counts in excess of the 5 fibre level generally and in excess of the 10 fibre ceiling in some instances. Wetting with water to approximately 2½ quarts per 3 cu.ft. bag reduces fibre counts to approximately the 2 fibre level. Sampling of Attic Fill 18 hours and 18 months after application indicates essentially no airborne residual fibres in the attic area following prior applications of vermiculite (Reference: T&A #48878 and #48880).

C. Masonry Fill (Asphalt Treated)

Masonry Fill (asphalt treated), tested twice, creates fibre counts in excess of the 5 fibre level generally, and in excess of the 10 ceiling level in some instances. Compared with the Insulating Concrete and Monokote samples (also Libby #4), the geometry of filling a hollow wall from above may be the reason for the higher fibre counts. To some degree the expanding plant may also be part of the reason (Dallas D-18; Trenton Model A).

As was the case with Attic Fill, once pouring ceases, the fibre counts rapidly decline to nearly zero (Reference: T&A #48880 and #48885).

A test will occur week of 15 to 19 March using the Attic Fill experiment above. If the "snowblast" application of wet Attic Fill occur with Masonry Fill, pouring into block cores may be difficult.

10042597

"Attic Fill, tested twice, in its current form creates fibre counts in excess of the 5 fibre level generally and in excess of the 10 fibre ceiling in some instances."

GRACE

CONSTRUCTION PRODUCTS DIVISION

CONFIDENTIAL

MAR 11 1976

March 11, 1976

To: H. A. Brown

From: R. H. Locke

Subj: Recent Sampling in Connection with Omaha Citations 4 and 5 (Product and Waste)

1. Sampling Conclusions. Based upon these very few, hurried tests which would be nice to verify between plants and with more job sites,

   A. Both Concrete Aggregate and Monokote are under 2 fibre, probably due to outdoor use with free air circulation. Only Dallas product has been tested, however, and there may be plant to plant variations in addition to the job site variations.

   B./C. Both Attic Fill and Masonry Fill exceed the 2 and 5 fibre levels. This necessitates a binder development program or other remedy.

   D. Horticultural appears to be no problem.

   E./F. Wetting stoner rock appears to put us below the 2 fibre level on waste disposal.

   Other. The above represent over 80% Libby output. Industrial (not tested but 5% of Libby) probably approximates Attic and Concrete Aggregate depending upon ore size, application geometry, and ventilation.

2. Using the Omaha extension to 31 December 1976 for action on items 4 and 5, a Binder Development Program should be initiated immediately. If the program is unsuccessful, uneconomic, requires extensive plant modifications to implement or runs into timing problems, back-up measures will be necessary.

   Such back-up programs might include: Reformulating Attic Fill; Restricting Masonry Fill to S.C. 04 with freight cost penalty in northern markets, or substitution of perlite from expanding plants so equipped; Acceleration of wet mill clean-up potential; Low-vacuum furnace settings; Teflon binding, Air allutriation; and other. Some of the above are unlikely. However, back-up is the point.

   A review of the West Chicago stoner discharge water spray should be possible soon.

   Last, it should be noted the potential exists that OSHA might inspect another plant and a different Regional Office might issue deadlines on product or rock earlier than the extended Omaha deadlines (the same applies to the September 30, 1977 deadline for 2 fibre). In that event, Omaha timing could conceivably be cited as a precedent for uniformity at 31 December 1976 and 30 September 1977.

10042596

DETAIL

1. Sampling.

Sampling of selected products was done during the last two weeks of February. The samples are not representative of all plants and of all uses of Libby products, but several conclusions may be drawn.

A. Concrete Aggregate and Monokote
(Sampling on jobsites with Dallas-made Libby #4 product)

Contractor employees opening bags, operating mixers, and disposing of bags received the highest exposures, but these were below the July 1st 2 fibre tolerance level (highest exposures were 1.0 to 1.5). Monokote gun operators (who routinely wear respirators) may be subject to 1.0 levels. Contractor employees cleaning up dried Monokote may receive levels between 2 and 5 fibres. The fibre concentrations on the roof (all less than 1 fibre) were probably a result of fibres from the ground mixer area.

In summary, it appears that application of Zonolite Insulating Concrete and Monokote do not create fibre exposures over 5 or 2 with two qualifying remarks; that (a) all sampling was out of doors or in wall-less buildings and (b) the Libby #4 product was from the Dallas plant exclusively (Reference: T&A #48871).

B. Attic Fill

Attic Fill, tested twice, in its current form creates fibre counts in excess of the 5 fibre level generally and in excess of the 10 fibre ceiling in some instances. Wetting with water to approximately 2½ quarts per 3 cu.ft. bag reduces fibre counts to approximately the 2 fibre level. Sampling of Attic Fill 18 hours and 18 months after application indicates essentially no airborne residual fibres in the attic area following prior applications of vermiculite (Reference: T&A #48878 and #48880).

C. Masonry Fill (Asphalt Treated)

Masonry Fill (asphalt treated), tested twice, creates fibre counts in excess of the 5 fibre level generally, and in excess of the 10 ceiling level in some instances. Compared with the Insulating Concrete and Monokote samples (also Libby #4), the geometry of filling a hollow wall from above may be the reason for the higher fibre counts. To some degree the expanding plant may also be part of the reason (Dallas D-18; Trenton Model A).

As was the case with Attic Fill, once pouring ceases, the fibre counts rapidly decline to nearly zero. (Reference: T&A #48880 and #48885).

A test will occur week of 15 to 19 March using Masonry Fill wetted like the Attic Fill experiment above. If the "snowballs" experienced with the wet Attic Fill occur with Masonry-Fill, pouring into block cores may be difficult.

D. Horticultural tests on consumer use of Ready Earth and Terralite Vermiculite indicate essentially no airborne fibres, or less than 0.1 fibre (Reference. T&A #48890).

E. Dry Stoner Rock in Omaha creates fibre exposures between 2 and 5 fibres for an employee transporting it to the dumpster while he is doing it. His time weighted average may differ. The contractor employee disposing of the waste in the dumpster is exposed to less than 1 fibre (0.6) even though in close proximity at the dump (Reference: T&A #48877).

F. Wet Stoner Rock in W. Chicago; conclusions are hampered both by all West Chicago samples being Engineering type and by inconsistencies in the data versus Omaha. However, it appears the wetted rock may be well below the 2 fibre level for employee exposures (Reference. T&A #48872).

R. H. Locke

RHL/cgr

EXHIBIT 22

P.84

Q. When you got that letter, do you know if you or Mr. Moran ever sent a letter out to the owners of the buildings and schools and hospitals?

A. No, we didn't.

Q. You didn't send a letter out?

A. What would be the reason for that? We would have everybody and his uncle trying to find out if they could sue us. That would be asking for – that would be murder.

* * *

Q. Just so I understand, you didn't send a letter out advising buidling owners about asbetsos health problems –

A. Absolutely not.

Q. – because you thought they would sue you?

A. What?

Q. Because you thought maybe they would sue you?

A. Well, wouldn't you? You would be suing everybody that you know, wouldn't you? You would get every case you could get to sue, and you know you would . . .

* * *

P.97

Q. Mr. Junker, do you remember whether Grace told you to quit giving out vermiculite in the form of a letter, or was that in a telephone call, or what?

A. That, I don't' remember. That, I don't remember for sure. I doubt that it was a letter because don't think that was the kind of thing they wanted to get spread all over the place, but –

Q. Why don't you think that's the kind of thing they want to spread all over the place?

A. Well, it's business.

* * *

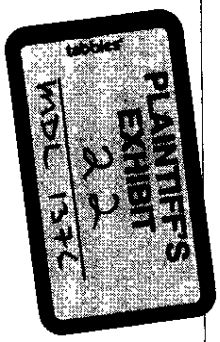
Q. Why don't you think this is the kind of letter that Grace wants to spread around?

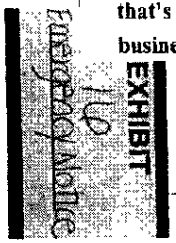
[OBJECTION]

A. You may be a good lawyer, but you would be a very poor businessman to want to spread detrimental things around about he company you work for, because that's what that would be. You don't tell the world about your shortcomings in the business world if you can help it.

Q. You didn't send a letter out [to the owners of buildings and schools and hospitals]?
A. What would be the reason for that? We would have everybody and his uncle trying to find out if they could sue us.

A. You may be a good lawyer, but you would be a very poor businessman to want to spread detrimental things around about the company you work for . . . You don't tell the world about your shortcomings





NO. 90-1760-H

H. WALLY SHIPLEY and FAYE SHIPLEY; WELDON COOK and BILLYE COOK; VIRGEL LEON ZIMMERMAN and RUTH ZIMMERMAN; HERBERT WILLIAMS and INEZ WILLIAMS; ARTHUR JAMES DAVIS; and J. R. GENTLE	*	IN THE DISTRICT COURT OF
VS.	*	DALLAS COUNTY, TEXAS
ARMSTRONG WORLD INDUSTRIES INC., ET AL.	*	160TH JUDICIAL DISTRICT

- - -

ORAL DEPOSITION

OF

ROBERT JUNKER

- - -

ANSWERS AND DEPOSITION OF ROBERT JUNKER, produced as a witness at the instance of the Plaintiffs, taken in the above-styled and -numbered cause on the 23rd day of October, 1991, at 1:30 p.m., before Sherri B. Garza, a Certified Shorthand Reporter in and for the State of Texas, at the home of Mr. Robert Junker, 10129 Rockmoor Drive, in the City of Dallas, County of Dallas, State of Texas, in accordance with the Notice issued and the agreements hereinafter set forth.

A. No, I don't remember how we did it. Probably sent it to the dump somewhere.

Q. When you got that letter, do you know if you or Mr. Moran ever sent a letter out to the owners of the buildings and schools and hospitals?

A. No, we didn't.

Q. You didn't send a letter out?

A. What would be the reason for that? We would have everybody and his uncle trying to find out if they could sue us. That would be asking for -- that would be murder.

MS. CLARK: Object.

A. And as an attorney, you should know that.

MS. CLARK: I object to the responsiveness of the answer.

Q. Just so I understand, you didn't send a letter out advising building owners about asbestos health problems --

A. Absolutely not.

Q. -- because you thought they would sue you?

A. What?

Q. Because you thought maybe they would sue you?

A. Well, wouldn't you? You would be suing everybody that you know, wouldn't you? You would get every case you could get to sue, and you know you would,

you personally, if that letter was sent out telling you how asbestos had ruined your building, and you better go to Grace and get all the money you can because that's a big conglomerate, and you better get on the gravy train. I never heard of anybody saying something like that. Nobody in his right mind would write a letter like that, nobody.

MS. CLARK: Mr. Junker, what you need to do is respond to his question. I understand you've gotten upset and that this is taking a while. We've been here over two hours now. But I object to the responsiveness of the answer. What you need to do, and we'll be through quicker, if you -- and I don't want you to be upset, but you need to answer his question and -- answer his question, but try to refrain from discussion beyond that.

THE WITNESS: Some things I can't refrain from, and that's one of them.

MS. CLARK: I understand, but why don't we try to proceed, so we can get this finished.

THE WITNESS: Let's get it over with.

MS. CLARK: We've gone for two hours

now.

MS. O'CONNELL: Can I ask, Counsel, how much longer do you think you have?

MR. WORTHINGTON: Not much longer. I appreciate your advice.

We can get through with this a lot quicker if you just answer the questions and move on.

THE WITNESS: You don't take an answer.

MS. O'CONNELL: One thing I think would be helpful is if you tried not to repeat your questions. I think he feels he's answered many of the things you're asking, and you're asking him the same thing over again.

(Interruption in proceedings.)

Q. Mr. Junker, when you got the letter from W. R. Grace advising the company to quit using asbestos, did you and Mr. Moran or anyone else ever talk about whether you should let all the building owners know about that letter?

A. No.

Q. Did you ever think that perhaps you should write a letter to everyone?

A. No. It never entered my mind or his or Grace's, I'm sure.

Q. Why did you not want to send out such a letter?

MS. CLARK: I object. You've asked this question.

A. That's asking for the same thing I said before.

Q. I didn't understand your answer. I want to make sure I understand.

A. I said every building owner would bring suit.

MS. CLARK: Wait a minute, Mr. Junker. I think he said it never entered his mind to send such a letter. They never discussed sending such a letter, and I think that this is, you know, entering into an area that's totally not related to any issue in this lawsuit, so I object, and I think you should move on because we've been here over two hours.

THE WITNESS: Don't keep mentioning that. Let's get it over with.

MR. WORTHINGTON: Off the record a second.

(Discussion off the record.)

Q. Mr. Junker, do you remember how you got an inkling, to use your word, that asbestos could cause health problems to workers?

A. By reading the articles on it, on asbestosis.

Q. Were those in -- what kind of documentation?

A. I think one of them was in Reader's Digest. Some of it was in the newspapers, wherever.

Q. Did W. R. Grace ever send you a memo about the health problems with asbestos?

A. Not until that one.

Q. Not until the one that advised you to quit using it altogether?

A. Right. I don't think so. I don't remember.

Q. When you got that stop-using-asbestos letter from Grace, did you and Mr. Moran ever talk about what the economic impact of that would be on your company?

A. Oh, I'm sure we did, yeah, yeah.

Q. What did y'all talk about, Mr. Junker?

A. The loss of profits. The loss of gross profit.

Q. You think removing asbestos would result in a loss of profits?

A. Yeah.

Q. Why is that?

A. We wouldn't be selling it. Any time you take

a good gross profit product off the line, off the market, and refrain from selling it, you're bound to be -- have less sales. You've got to make it up somewhere, so we went to work on trying to make it up with Monokote and other vermiculite sales and so on and so forth.

Q. Once the company stopped putting asbestos in their products, did Grace continue to sell nonasbestos Monokote and Zonolite?

A. As far as I know, they did. Texas Vermiculite did.

Q. Was the company still profitable with nonasbestos products?

A. Yeah. We were making money. That was a good year financially, good -- the economy was up in those years.

Q. Do you remember at all what year that was, Mr. Junker?

A. No, not specifically.

Q. Do you know which decade that was?

A. That we stopped using it?

Q. Yes.

A. Well, no, I don't remember specifically what decade it was either.

Q. But the same year that you pulled out the asbestos was a good year to your company?

A. Well, it wasn't as bad as we had thought it might be.

Q. What kind of substitute or alternative --

A. And I think it was late in the year that it happened, too, if I recall.

Q. Do you remember what the company used to replace asbestos with in the Zonolite and Monokote products?

A. No, except maybe more of the gypsum and bentonite and stuff like that.

Q. Were Storbeck & Gregory and your other customers continuing to buy your material after you took the asbestos out?

A. Yeah. Those that were doing fireproofing did.

Q. Do you know, Mr. Junker, whether a bag of asbestos-containing MK-3 Monokote fireproofing cost more or less than a bag of nonasbestos-containing Monokote fireproofing?

A. Oh, it's bound to cost a little more with the asbestos in it because asbestos isn't exactly cheap.

Q. Do you know what the price difference would have been?

A. No, because I don't know what they make it out of now.

Q. Well, back in the year that the company stopped using asbestos in their Monokote, do you remember if the Monokote without the asbestos cost more than ten cents or more than twenty cents than the asbestos bag?

A. We got a good price for Monokote, a real good price. Ten cents wasn't that much money in those days for a Monokote bag because it was an expensive product, so I don't know. It could have been a 25 cents difference. I don't really know.

Q. You understand that the bag of MK-3 had asbestos in it; is that right?

A. I think it did.

Q. And the bag of MK-5 did not have raw asbestos, right?

A. As I remember, yeah.

Q. Do you know if the bag of MK-5 cost more or less than the bag of MK-3 back in the '70s?

A. I don't remember. Oh, I doubt that it cost less.

Q. The MK-5 cost less?

A. No, I doubt that it does.

Q. You think it cost more, then?

A. Especially nowadays.

Q. But back in the '70s, you think it cost more?

A. I don't know. I really don't know.

Q. It didn't make a big impression on you in terms of the price difference between the asbestos and nonasbestos bag of Monokote?

A. You mean selling it or making it?

Q. Both.

A. Well, every time I made a product, I analyzed the cost to make it and gave it to Mike and told him, this is what we can make it for. And then he, with other people, would decide what we should get for it and make a decent profit, all of us together, and that's the way we worked it. And I just don't remember what we came up with because I don't remember what we put in that we did not put in when there was asbestos, but probably more of those products, those raw materials.

Q. Just so I understand, Mr. Junker, you don't remember today whether the bag of MK-5 cost more or less than the bag of MK-3?

A. I would say it cost more.

Q. Do you remember how much at all the difference was?

A. No.

MS. CLARK: I object. It's been asked and answered.

And you can stand on your answer that you've already given, Mr. Junker, and you

don't have to keep trying to answer the same question, if you would like to do that.

Because I think it has been asked and answered, Mr. Worthington.

Q. Do you know if the difference was a nickel or a dime?

MS. CLARK: I object. It's been asked and answered.

A. I said that before. I don't know. I said it might be a quarter, and it could be even more than that. I don't know. You don't remember those kind of things. I was figuring up the cost on 25, 30, 40 products, and I do not remember what it cost to make this or that or the other thing all the time. I wrote it down, and its analysis and everything, but that's all I did.

Q. I just have two more lines of questioning, Mr. Junker, and then we're done. First of all, I want to ask you a few questions about vermiculite. All right?

A. All right.

Q. Have you ever heard of the word "tremolite" asbestos?

A. Is that with asbestos in it -- vermiculite with asbestos?

Q. I'm asking you. I'm not going to testify for you.

A. I've never heard of the cestolite (phonetic) or whatever.

Q. Tremolite?

A. Oh, tremolite, no. I have never heard of that. I think one of these girls mentioned it, and I had never heard of it.

Q. By "one of these girls," you mean one of these lawyers?

A. Yeah.

THE WITNESS: Oh, pardon me. You are not girls; you are lawyers.

Q. Did you ever understand in the '50s, '60s or '70s, that vermiculite from Libby, Montana had a form of asbestos in the ore?

A. Yes. Yes, we did. We knew it. We found out about it from Grace. We used to give it out to people to fill up their yards, raise low spots, but we stopped giving it out. We would not let anybody take it home for that reason.

Q. When did you stop giving it out?

A. I don't know. I don't remember the year.

Q. When you say "give it out," do you mean give it out to just people?

A. Yeah, they would pick it up in bags and take it home and fill in low spots.

Q. For their houses?

A. Yeah, their yards.

Q. Why did you no longer give them the vermiculite?

A. Because Grace told us that.

Q. Told you what?

A. That there was a certain amount of asbestos in vermiculite.

Q. Did anyone from Grace ever tell you that tremolite asbestos was a definite health hazard at the Libby, Montana plant and also in the expanding plants?

A. Not specifically, no.

Q. Did they ever tell you that in a general way?

A. Well, yeah, they did, by telling us not to give any out.

Q. Again, if you don't know, that's fine, but do you remember at all what decade that was, or what year that was?

A. I remember what's his name took that out to his house out in Farmers Branch from Chicago.

THE WITNESS: You know, Elaine's husband.

MRS. JUNKER: Oh, Howard?

THE WITNESS: Howard.

MRS. JUNKER: That's been 20 years

ago, or more than that.

THE WITNESS: Not when he took it out to his house.

MRS. JUNKER: It's been a long time ago. Good grief, it was a long time ago.

A. So it was the '60s. The decade was the '60s.

Q. You think it was in the 1960s?

A. Yeah.

Q. But you're not real sure, are you?

A. She's sure.

MRS. JUNKER: No, I'm not sure.

A. He came down in the middle '50s and built a home.

MS. CLARK: Wait. He's given you an answer, and that's his best estimate, and I don't think you can ask him if he's sure or not sure. He said that it's based on his memory, and that's his best estimate, so I think the answer should stand.

A. We stopped letting people take it home.

MR. WORTHINGTON: Sandra, with all due respect, I don't know if he said the '50s, '60s or '70s. I don't know what he said.

MS. CLARK: He said the '60s.

MRS. JUNKER: He said he didn't

remember.

MR. WORTHINGTON: So you say the '60s. She says -- that's why I'm asking these questions, because I don't know the answer.

MS. CLARK: No, you said -- well, anyway. I instruct him not to answer. The record can speak for itself. You can go on to a different question.

Q. Mr. Junker, do you remember whether Grace told you to quit giving out vermiculite in the form of a letter, or was that in a telephone call, or what?

A. That, I don't remember. That, I don't remember for sure. I doubt that it was a letter because I don't think that was the kind of thing they wanted to get spread all over the place, but --

Q. Why don't you think that's the kind of thing they want to spread all over the place?

A. Well, it's business.

MS. CLARK: That's calling for speculation. He can't testify what Grace wanted or didn't want. He's just merely speculating about that, and you are asking him to speculate what someone else or some other group of people may have wanted to do, Roger, and that's an improper question.

EXHIBIT 23

GRACE

Construction Products Division

TO: R. T. O'Reilly - Grace/NY DATE: November 1, 1985

FROM: R. C. Walsh

CC: O. M. Favorito

As we discussed yesterday, one way to think about lung cancer risk relating to exposure to vermiculite containing tremolite is to look at the total work population involved in the application of our products.

In my memo to Felix Larkin of September 13, Exhibit IV showed a risk assessment analysis based on a "man years" approach. The analysis showed that one can calculate just over one-tenth of an excess lung cancer case as a result of ten years of application of our products.

Yesterday, I translated the man years approach to a working population approach and came up with some 30,000 people. The following shows the derivation of the number.

(See following page)

One way to think about **lung cancer risk** relating to exposure to vermiculite containing tremolite is to look at the total work population involved in the application of our products.

Yesterday, I translated the man years . . . and came up with some [redacted]

PLAINTIFF'S EXHIBIT 2 3 MDL 1376

EXHIBIT 17 Emergency Motion

ALL-STATE LEGAL SUPPLY CO

001521

GRACE

Construction Products Division

TO: R. T. O'Reilly - Grace/NY DATE: November 1, 1985

FROM: R. C. Walsh

CC: O. M. Favorito

As we discussed yesterday, one way to think about lung cancer risk relating to exposure to vermiculite containing tremolite is to look at the total work population involved in the application of our products.

In my memo to Felix Larkin of September 13, Exhibit IV showed a risk assessment analysis based on a "man years" approach. The analysis showed that one can calculate just over one-tenth of an excess lung cancer case as a result of ten years of application of our products.

Yesterday, I translated the man years approach to a working population approach and came up with some 30,000 people. The following shows the derivation of the number.

(See following page)

EXHIBIT 24

EPA
United States
Environmental Protection
Agency

Office of Pollution Prevention
and Toxics

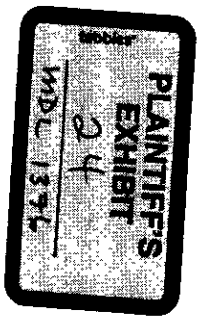
Asbestos in Vermiculite Insulation

The U.S. Environmental Protection Agency (EPA) offices have received a large number of phone calls from citizens concerned about insulation that might contain asbestos in their homes. EPA is gathering more information about vermiculite insulation and other products containing vermiculite that may be contaminated with asbestos. If you suspect vermiculite insulation is in your home, the safest thing is to leave the material alone. If you decide to remove or must otherwise disturb the material due to a renovation project, consult with an experienced asbestos contractor. The following information provides a common-sense approach to help you find out what kind of insulation is in your home and decide what to do if you have vermiculite insulation.

Background

Product names cannot be used to determine if your insulation might contain asbestos. All vermiculite is likely to contain small or trace amounts of asbestos. EPA believes that a number of manufacturers produced insulation from vermiculite. One mine in the United States produced over 70 percent of the world's vermiculite before the mine was closed in 1990. Vermiculite products generated from this mine were likely to have been contaminated with asbestos.

Back to Top



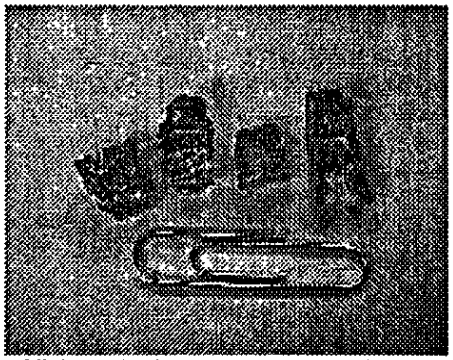
Why is it a problem?

If disturbed, asbestos fibers in vermiculite insulation may get into the air. These fibers can be inhaled and become trapped in the lungs where they may cause diseases such as asbestosis, lung cancer, and mesothelioma. These diseases can develop many years after exposure to asbestos.

Back to Top

What does it look like?

Vermiculite is a mineral that is shaped like a small nugget, and varies in color from silver-gold to gray- brown. The asbestos fibers contained in vermiculite attic insulation are generally too small to be seen without magnification. Only a trained technician using careful microscopic examination can see asbestos fibers.



Click on the image to see an enlarged picture of vermiculite.

Back to Top

What should I do if I have vermiculite insulation in my home ?

Look at the insulation without disturbing it. If it appears you have vermiculite insulation in your home, we recommend the following steps:

- If possible, leave the insulation undisturbed. Asbestos particles will not become airborne if the insulation is contained. If it's sealed behind wallboards and floorboards or is isolated in an attic that is vented outside, the best approach is to keep it in place.

- If you are planning to remodel or replace vermiculite insulation, have it tested first.
  - EPA recommends using a trained and accredited professional to conduct the tests. If you decide to remove the vermiculite home insulation, use accredited, licensed asbestos removal professionals. Use of a "negative pressure enclosure" technique will

prevent asbestos fibers and dust from escaping from the attic into the rest of the home. **Do not attempt to do this yourself.** You could spread asbestos fibers throughout your home, putting you and your family at risk of inhaling asbestos fibers.

- After the vermiculite insulation is removed, you may want to consider having air monitoring tests done in your attic and throughout the living areas of your home. This is to ensure that the concentration of asbestos fibers in the home is low or not present.

Back to Top

How do I find an accredited asbestos removal professional?

An accredited asbestos inspector has undergone approved training and then taken examinations to be accredited. He or she will be able take samples of the insulation, provide information on the results, and advise about additional tests or options to consider. Inspectors can be found in the Yellow Pages under "Asbestos Consulting and Testing" or "Asbestos Abatement." Ask the inspector to provide the name of the company that trained, accredited him or her. Call that company to confirm whether a particular inspector has had the required training and has up-to-date accreditation. If your State has licensing, confirm that the inspector's license is also current. Companies that can test the air in your home will be found under the same listings.

Back to Top

Where can I get more information?

Information can be found on the hotline and web sites below as it becomes available.

For current information on asbestos and health related information, contact EPA's TSCA Hotline at 1-202-554-1404 or visit EPA headquarters' Asbestos web site: www.epa.gov/asbestos

Also visit the federal Agency for Toxic Substances and Disease Registry (ATSDR) website at www.cdc.atsdr.gov.

Back to Top

Return to Asbestos Home Page

OPPT Home | EPA Home | Comments | Search

Asbestos Programs

http //www epa gov/opptintr/asbestos/insulation htm
Last revision December 7, 2000

EXHIBIT 25